

CLAIMS

1. A memory tag comprising a resonant circuit part, a detector module and an output generator module, the resonant circuit part being operable to generate  
5 an output signal in response to a reader signal from a reader, the magnitude of the output signal being dependent on the magnitude of the reader signal, the detector module being responsive to the magnitude of the output signal such that, when the magnitude of the output signal is relatively low, the detector module causes the output generator module to transmit an identifier signal, and  
10 when the magnitude of the output signal is relatively high, the detector module is operable to cause the tag to move to an operating mode.
2. A memory tag according to claim 1 comprising a memory, wherein the detector module is operable to cause the tag to move to an operating mode by  
15 connecting the memory to the resonant circuit part.
3. A memory tag according to claim 1 comprising a rectifying circuit part responsive to the output signal of the resonant circuit part to generate an output voltage, and wherein the detector module is responsive to the magnitude of the  
20 output voltage.
4. A memory tag according to claim 3 wherein the tag comprises a memory and wherein the detector module is operable to move the tag to an operating mode connect the memory to the rectifying circuit part when the output signal  
25 is relatively high and to disconnect the memory from the rectifying circuit part when the magnitude of the output signal is relatively low.
5. A memory tag according to claim 1 wherein the resonant circuit part comprises a switch, wherein when the magnitude of the output signal is

relatively low the output generator module is operable to control the switch to transmit the identifier signal, and when the magnitude of the output signal is relatively high, the memory is operable to control the switch.

5     6.     A memory tag according to claim 1 wherein the output generator module comprises a pseudorandom binary sequence generator to generate an identifier signal comprising a pseudorandom binary sequence.

10    7.     A memory tag according to claim 1 wherein the resonant circuit part is operable to provide inductive coupling to a reader wherein the reader signal is received via the inductive coupling.

15    8.     A memory tag comprising a resonant circuit part, a detector module, an output generator module and a memory, the resonant circuit being operable to generate an output signal in response to a reader signal from a reader, the magnitude of the output signal being dependent on the magnitude of the reader signal, the detector module being operable in response to the output signal such that when the magnitude of the output signal is relatively low the detector module causes the output generator module to transmit an identifier signal, and  
20    when the magnitude of the output signal is relatively high, the detector module is operable to connect the memory to the resonant circuit part.

25    9.     A reader to read a memory tag, the reader being operable to transmit a reader signal to a memory tag, the reader further being operable to receive a signal from a memory tag, the reader being operable to transmit the reader signal to the memory tag at a first, relatively low power, and in response to an identifier signal from a memory tag, being operable to transmit a reader signal to the memory tag at a second, relatively high power.

10. A reader according to claim 9 comprising a resonant circuit part and a signal generator operable to supply a drive signal to the resonant circuit part, the reader further comprising an amplitude modulator to control the amplitude of the drive signal supplied from the signal generator to the resonant circuit part.
11. A reader according to claim 9 comprising a output signal identifier module, operable to identify the identifier signal from the memory tag.
12. A reader according to claim 11 wherein the reader comprises a correlator operable to identify the identifier signal.
13. A reader according to claim 9 operable to provide inductive coupling to the memory tag wherein the reader signal is transmitted via the inductive coupling.
14. A reader to read a memory tag, the reader comprising a resonant circuit part, an interrogator, and an identifier signal module, the interrogator module being operable to transmit a reader signal at a first, relatively low power to a memory tag, receive a signal from the memory tag and pass the received signal to the identifier signal module, the identifier signal module being operable to identify the identifier signal and generate an instruction to the interrogator module to generate a reader signal at a second, relatively high power.
15. A system comprising a memory tag and a reader, the memory tag having a resonant circuit part, a detector module, an output generator module and a memory holding data, the reader comprising a resonant circuit part operable to transmit a reader signal to the memory tag and receive a signal from the

memory tag, the reader being operable to transmit a reader signal to the memory tag at a first relatively low power wherein,

the resonant circuit part of the memory tag, in response to the reader signal, generates an output signal having a first, relatively low magnitude,

5 the detector module is responsive to the first relatively low magnitude of the output signal to cause the output generator module to transmit an identifier signal,

the reader is operable to receive the identifier signal from the memory tag and identify the identifier signal, and generate a reader signal at a second, 10 relatively high power,

the resonant circuit part of the tag is operable to generate an output signal having a second, relatively high magnitude, the detector module being responsive to the output signal having a second, relatively high magnitude to connect the memory to the resonant circuit part, and

15 the memory tag is operable to send a signal to the reader to transmit the data held in the memory to the reader.

16. A method of operating a memory tag comprising the steps of detecting a signal received from a reader, and, when the magnitude of the signal is 20 relatively low, transmitting an output identifier signal and when the magnitude of the signal is relatively high, moving to an operating mode.

17. A method according to claim 16 wherein the step of moving to an operating mode comprises permitting operation of a memory of the memory 25 tag.

18. A method of operating a reader for reading a memory tag comprising generating a signal having a first, relatively low power, detecting an identifier

signal from a memory tag, and in response to detection of the identifier signal, generating a signal at a second, relatively high power.